

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (currently amended):      A robot comprising:  
a motion unit;  
an array of detectors supported by the motion unit;  
a memory device storing data corresponding to at least one counter configured to  
determine a time value;  
an infrared sensor operatively coupled to the memory device, the infrared sensor  
including: (a) an infrared light source configured to produce a plurality of pulses of  
infrared light directed toward an environment of the robot; (b) at least one optics  
configured to focus a plurality of reflections of from the infrared light pulses from  
different portions of the environment of the robot to different detectors in a 2D the array  
of detectors, the detectors producing indications of distances to the closest object in an  
associated portion of the environment; and  
at least one processor operatively coupled to the memory device, the processor  
operable to receive determine distance information based at least in part on the  
determined time value~~the indications from the infrared sensor, determine a feature in~~  
~~the environment and control the motion unit to avoid the feature.~~

Claim 2 (currently amended):      The robot of claim 1, wherein the ~~indication~~  
determined distance information is produced by measuring a period of time to receive a  
reflected pulse and the at least one processor is operable to determine a feature of the  
environment based at least in part on the determined distance information.

Claim 3 (currently amended):      The robot of claim 1, wherein the determined  
distance information ~~indication~~ is produced by measuring an energy of a reflected pulse  
up to a cutoff time.

Claim 4 (currently amended): The robot of claim 42, wherein the feature is indicated in an internal map.

Claim 5 (currently amended): The robot of claim 42, wherein the feature is a step.

Claim 6 (currently amended): The robot of claim 42, wherein the feature is an object in a room.

Claim 7 (original): The robot of claim 1, wherein the robot is a robot cleaner.

Claim 8 (currently amended): A method comprising:  
storing data in a memory device of a robot, the memory device corresponding to at least one counter configured to determine a time value;  
producing a plurality of pulses of infrared light directed toward an environment of the robot;  
focusing with at least one optic a plurality of reflections from of the infrared light pulses from different portions of the environment of at the robot to different detectors in an 2D-array of detectors; and  
processing the determined time value to determine distance information based at least in part on the determined time value~~producing indications of the distances to the closest object in an associated portion of the environment using the detectors; and using the indications from the infrared sensor to determine a feature in the environment so that the robot can be controlled to avoid the feature.~~

Claim 9 (currently amended): The method of claim 8, wherein the ~~indication~~ determined distance information is produced by measuring the time to receive a reflected pulse and; including determining a feature of the environment based at least in part on the determined distance information.

Claim 10 (currently amended): The method of claim 8, wherein the determined distance information ~~indication~~ is produced by measuring the energy of a reflected pulse up to a cutoff time.

Claim 11 (currently amended): The method of claim ~~8~~9, wherein the feature is indicated in an internal map.

Claim 12 (currently amended): The method of claim ~~8~~9, wherein the feature is a step.

Claim 13 (currently amended): The method of claim ~~8~~9, wherein the feature is an object in a room.

Claim 14 (original): The method of claim 8, wherein the robot is a robot cleaner.

Claim 15 (currently amended): A robot comprising:  
a motion unit;  
an array of detectors supported by the motion unit;  
a memory device storing data corresponding to at least one counter configured to  
determine a time value  
an infrared light source operatively coupled to the memory device and configured  
to produce a plurality of pulses of infrared light directed toward an environment of the  
robot;  
at least one optic operatively coupled to the memory device and configured to  
focus a plurality of reflections of the infrared light pulses from the environment of the  
robot to the array of detectors; and  
~~a sensor producing multiple indications of distances to the closest object in an~~  
~~associated portion of the environment; and~~  
at least one ~~a~~ processor operatively coupled to the memory device, the  
processor operable to receive-determine distance information based at least in part on  
the determined time value ~~the indications from the sensor, determine a feature in the~~  
~~environment and control the motion unit to avoid the feature.~~

Claim 16 (currently amended): The robot of claim 15, wherein the indications  
the determined distance information is-are produced by measuring a period of time to  
receive a reflected pulse and the at least one processor is operable to determine a  
feature of the environment based at least in part on the determined distance  
information.

Claim 17 (currently amended): The robot of claim 15, wherein the determined  
distance information ~~indications are~~ is produced by measuring an energy of a reflected  
pulse up to a cutoff time.

Claim 18 (currently amended): The robot of claim ~~45~~16, wherein the feature is  
indicated in an internal map.

Claim 19 (currently amended): The robot of claim ~~45~~16, wherein the feature is a step.

Claim 20 (currently amended): The robot of claim ~~45~~16, wherein the feature is an object in a room.

Claim 21 (original): The robot of claim 15, wherein the robot is a robot cleaner.

Claims 22-23 (canceled)

Claim 24 (currently amended): A method comprising:  
storing data in a memory device of a robot, the memory device corresponding to at least one counter configured to determine a time value;  
producing a plurality of pulses of infrared light directed toward an environment of the robot;  
focusing with at least one optic a plurality of reflections of the infrared light pulses from the environment of the robot to an array of detectors; and  
processing the determined time value to determine distance information based at least in part on the determined time value;~~using the light to produce indications of the distances to the closest objects in an portions of the environment; and using the indications from the infrared sensor to determine a feature in the environment so that the robot can be controlled to avoid the feature.~~

Claim 25 (currently amended): ~~The method of claim 24, wherein the light is infrared light~~ including determining a feature of the environment based at least in part on the determined distance information.

Claim 26 (currently amended): The method of claim 24, wherein the determined distance information is ~~indications are produced by measuring the time to receive a reflected pulse.~~

Claim 27 (currently amended): The method of claim 24, wherein the determined distance information is ~~indications are~~ produced by measuring the energy of a reflected pulse up to a cutoff time.

Claim 28 (currently amended): The method of claim 24~~25~~, wherein the feature is indicated in an internal map.

Claim 29 (currently amended): The method of claim 24~~25~~, wherein the feature is a step.

Claim 30 (currently amended): The method of claim 24~~25~~, wherein the feature is an object in a room.

Claim 31 (original): The method of claim 24, wherein the robot is a robot cleaner.

Claims 32-33 (canceled)